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**Sustainable Cities in the Americas:
Collaborating for Livable and Inclusive Cities**

Technical Meeting of OAS Member States
OAS Washington DC

Tuesday May 3rd, 2011 – 2-5PM



Organization of
American States

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Department of Sustainable Development

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Santa Cruz, Bolivia 1996

Plan of Action

1. economic development,
2. Low income housing for poverty alleviation,
3. pollution prevention and environmental protection
4. sustainable transport
 - [Public Transport](#)
 - [Urban Greening, Cycling, Walking](#)
 - [Sustainable Urban Development](#),
 - [Climate, Energy, & Transport Policy](#)
 - [Traffic Reduction](#)
 - [Outreach & Awareness](#)

Santa Cruz Plan of Action

II.3 Sustainable Cities

Initiative 41. Develop strategies that encourage **policies and programs** for prevention of and protection against pollution, cleaning up of the environment, and waste treatment, strengthening sustainable urban development. These policies may include public-private sector associations, market-based programs, and other volunteer programs.

42. Develop a **hemispheric framework for the exchange of information** on and experiences in successful pollution prevention and waste treatment efforts.

43. Promote the **exchange of information and experiences among the mayors** of the Hemisphere on the most appropriate practices for urban environmental stewardship, promotion of non-polluting consumer practices, sustainable transportation, environmental impact, and sewage treatment.

45. Foster the inclusion of sustainable development in **urban development plans**.

Mexico's largest natural lake – Lake Chapala, Mexico



- 1983: Level of the lake has declines; noticeable decreases in wetlands

- 2001: Alteration in the contours of the shoreline is clearly visible

ONE PLANET MANY PEOPLE Atlas of Our Changing Environment



Urban encroachment on Florida's Everglades, United States



- 1973: Rapid urban expansion has converted farmlands to cityscapes

- 2002: Existence of vast wetlands "Everglades" threatened by urban encroachment

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Changes in Ecuador's largest sea port: Gulf of Guayaquil, Ecuador



Ecuador's primary city
and largest sea port

1985-2000: Loss of
mangrove and growth of
aquaculture can be seen

ONE PLANET MANY PEOPLE Atlas of Our Changing Environment




Unplanned growth of Brasilia, Brazil




•1973-2001:
Unplanned urban
development
resulted in a
collection of urban
"satellites" around
the city


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Home to more than one-third of country's population – Santiago, Chile



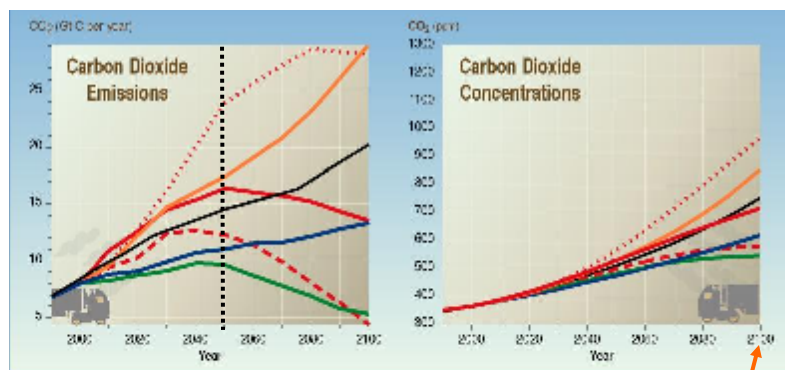


The explosive growth of Santiago urban area

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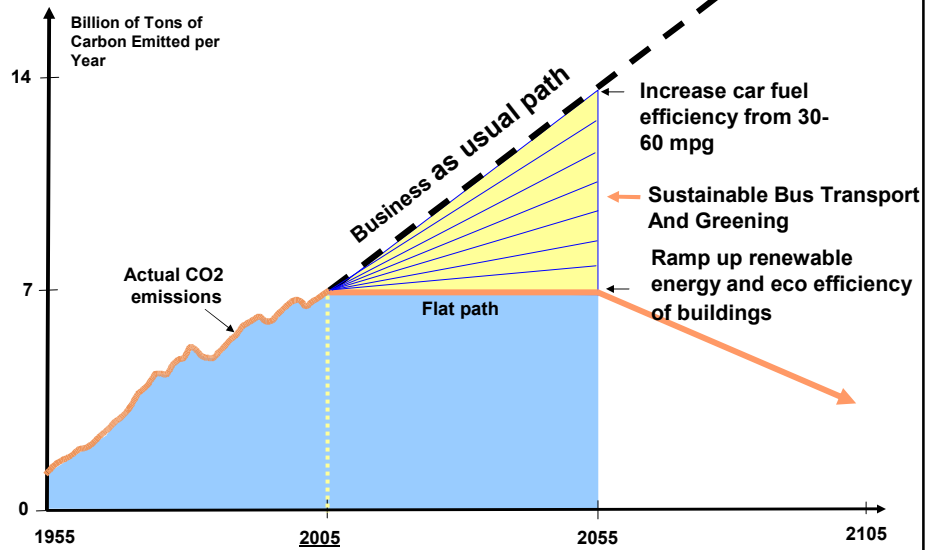
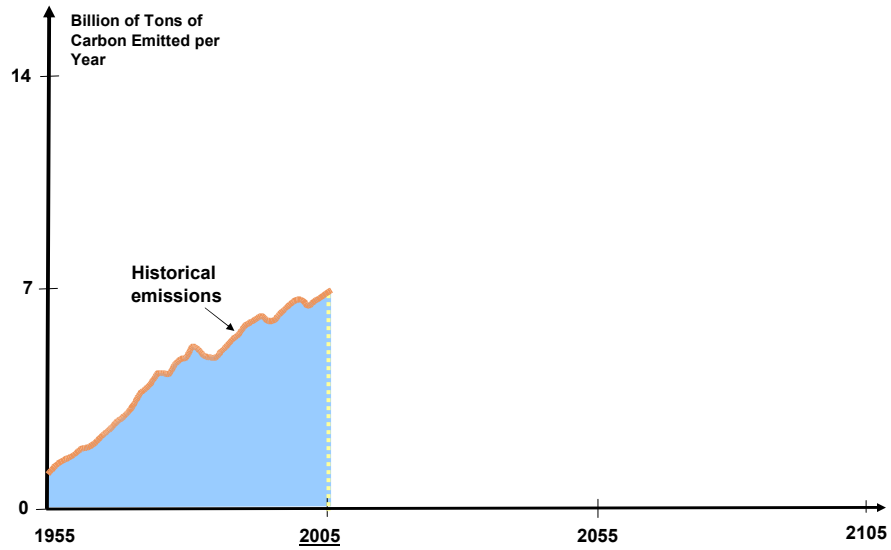
A Plethora of Scenarios



Graphic courtesy of IPCC

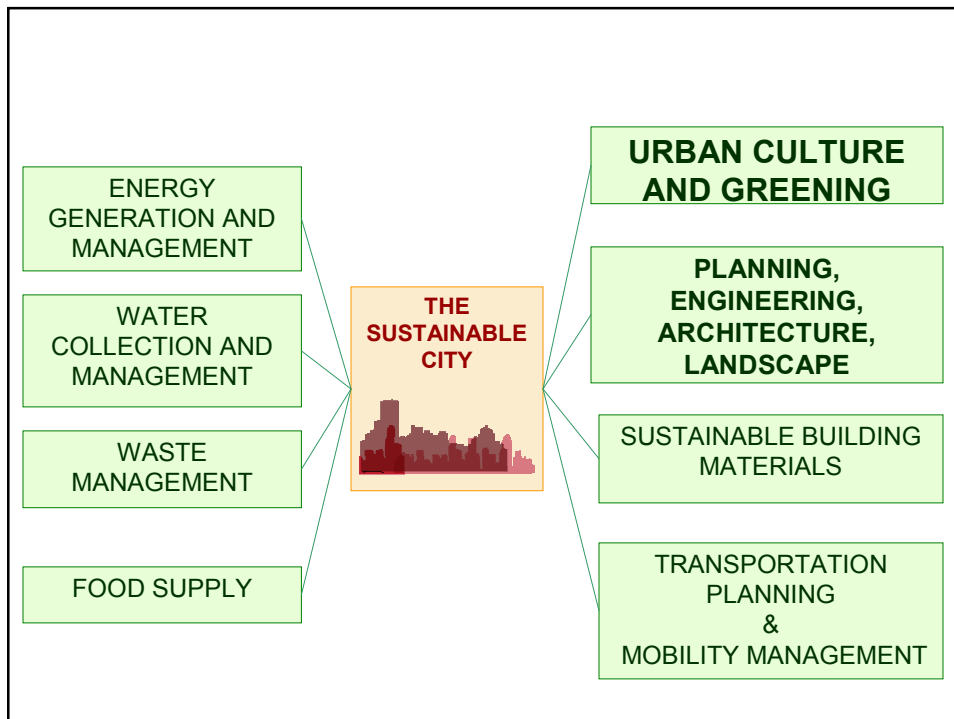
Predicted global temperature change of 1.4 - 5.8°C by 2100

The Stabilization Wedge – Two Scenarios



Several organizations are uniting key players in urban renewal

- Institute for Transportation and Development Policy: <http://www.itdp.org/>;
- Making Cities Work www.makingcitieswork.org;
- International City/County Management Assoc. <http://icma.org/en/icma/home>;
- United Cities and Local Governments <http://www.cities-localgovernments.org/>
- Cities Alliance: <http://www.citiesalliance.org/ca/>
- Cities Collective <http://sustainablecitiescollective.com/>
- The Clean Air Institute <http://www.cleanairinstitute.org>
- The Center for Clean Air Policy <http://www.ccap.org>
- World Bank and IADB



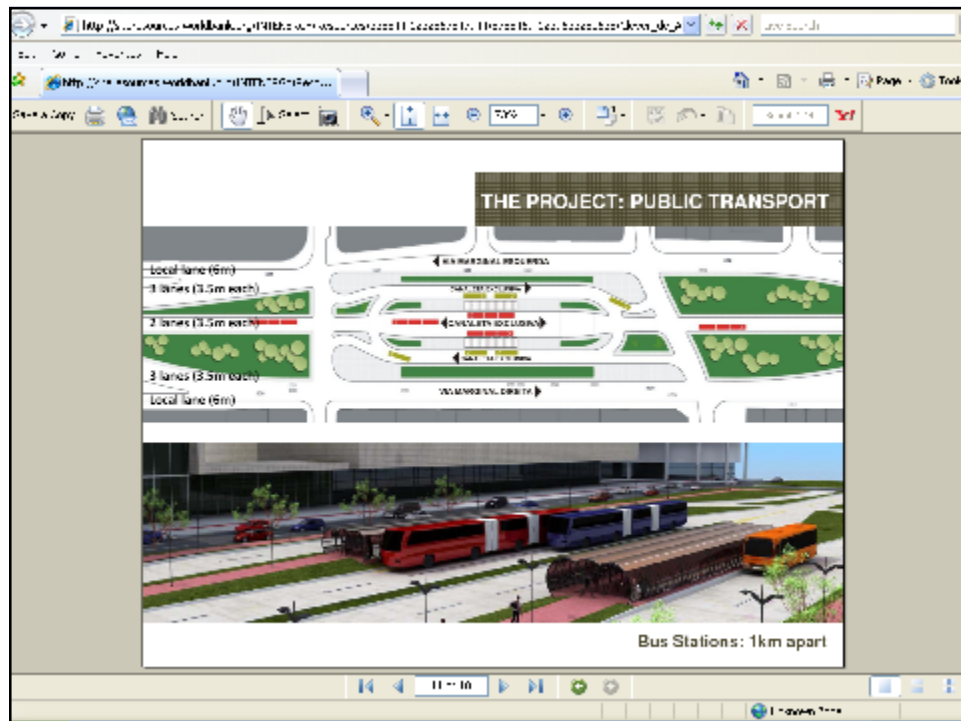
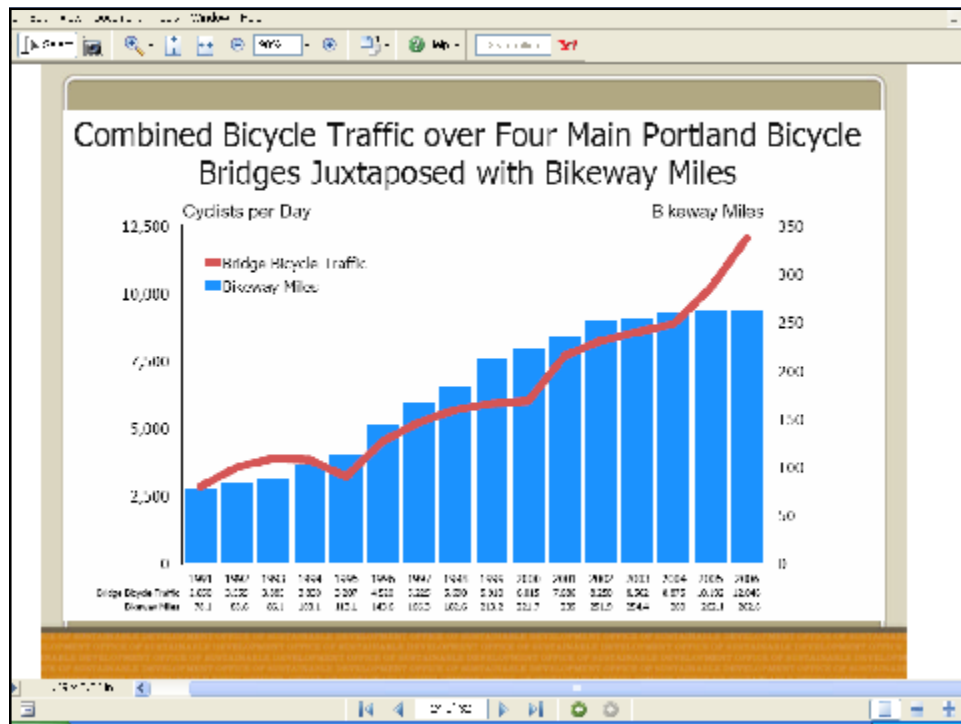


Review Checklist:

- ☐ Can motorists safely pass bike
- ☐ Road surface condition
- ☐ Obstacles or road hardware
- ☐ Gutter space not included in
- ☐ Signs and wayfinding
- ☐ Would shared lane marking positioning?

Wide curb lane with shared lane marking (sharrow) and share the road sign







Environmental & ecological benefits: air quality improvement

The problem - urban air pollutants

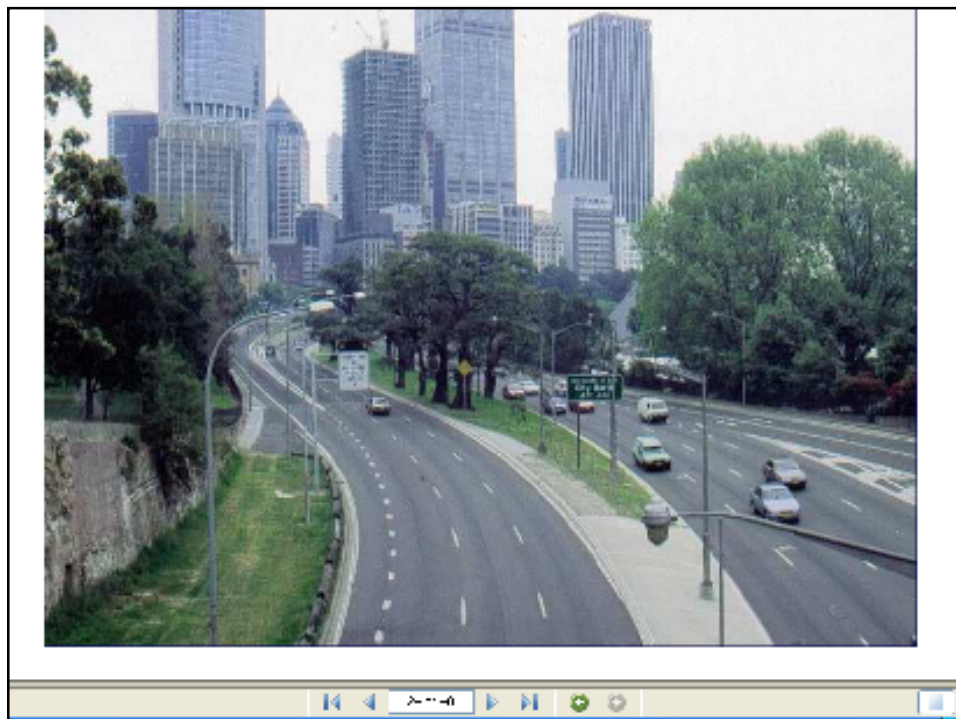
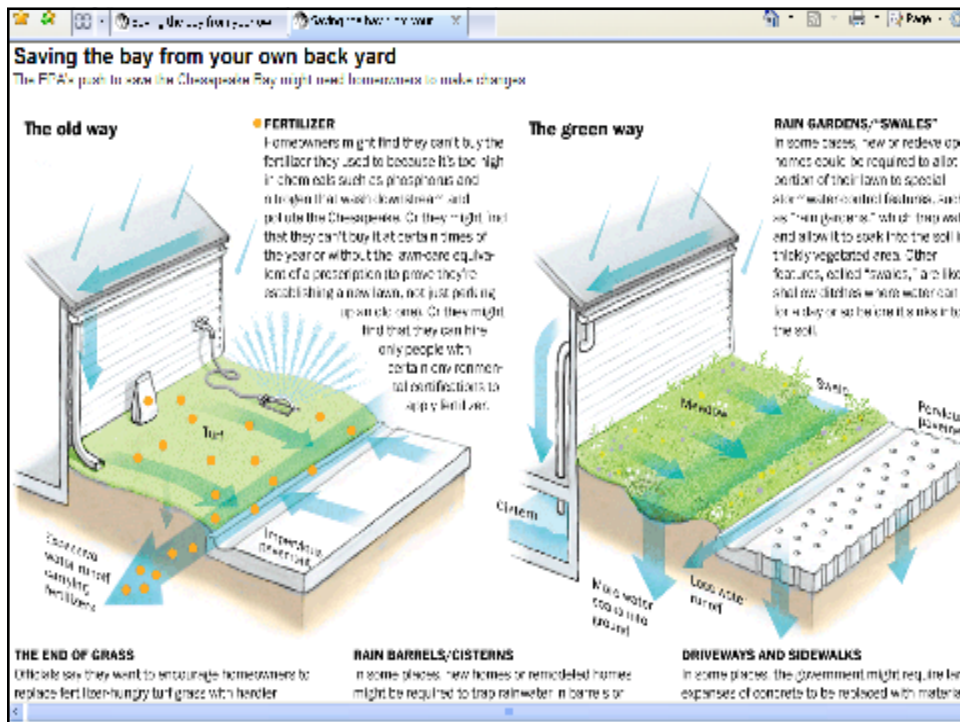
- Particulates: asthma, cardiopulmonary diseases & cancer
- Gases: sulfur dioxide, nitrogen oxides (NOx), carbon monoxide, hydrocarbons, ozone (O₃) and peroxyacetylnitrate (PAN)

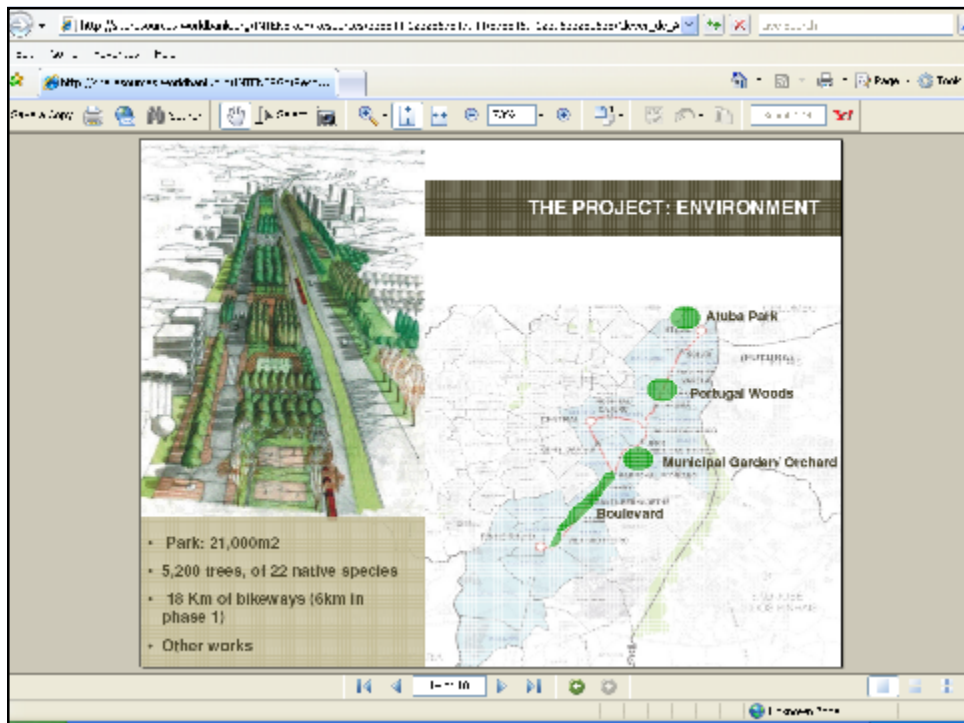
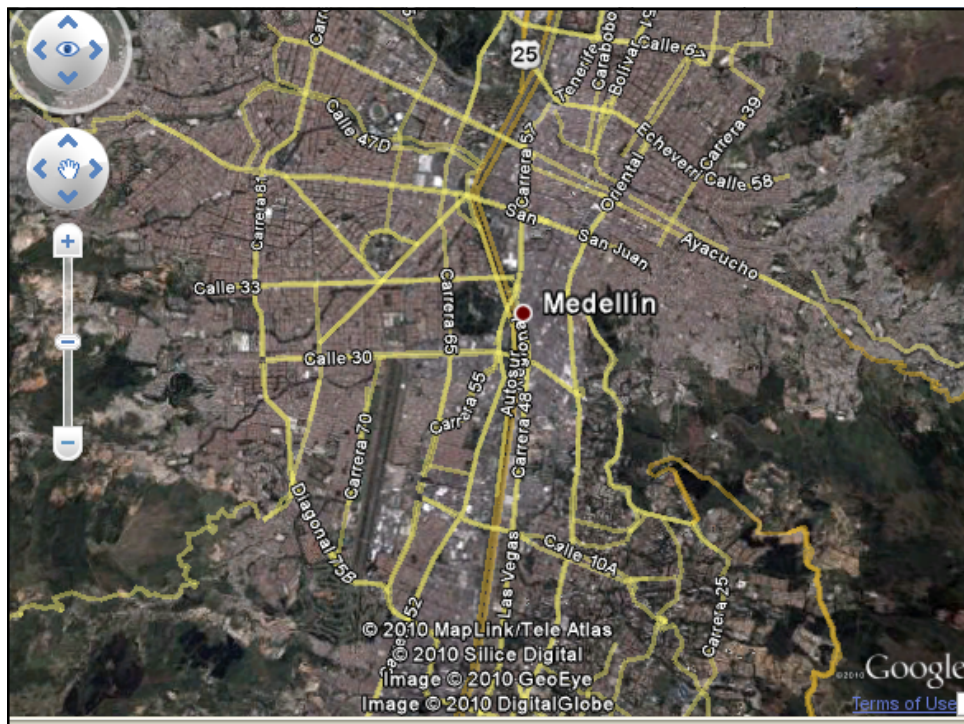
Trees remove air pollutants

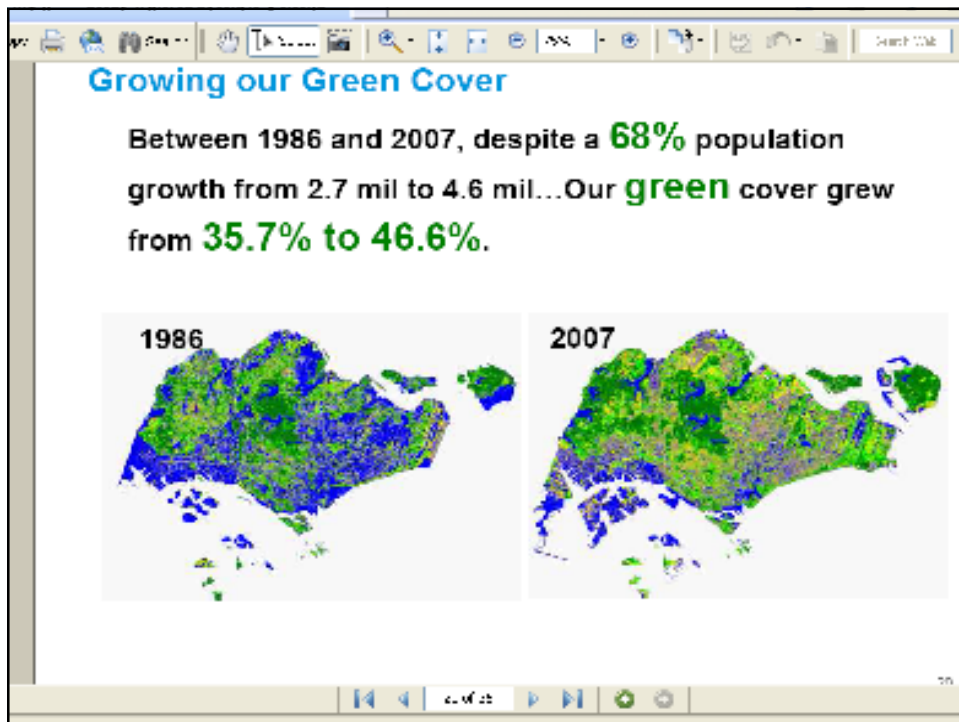
- Catch particulates on leaf surfaces: rain washes particles to soil
- Absorb gases through "holes" (stomata) in leaf surfaces
- Lower air temperatures, so reduce ozone levels and power plant emissions (through reduced cooling demand)
- Shade parking lots, so reduce hydrocarbon emissions from cars
- Release oxygen through photosynthesis (most from algae in sea)

Annual municipal forest benefits and costs (\$) for Modesto and Santa Monica, California (McPherson & Simpson, 2002)

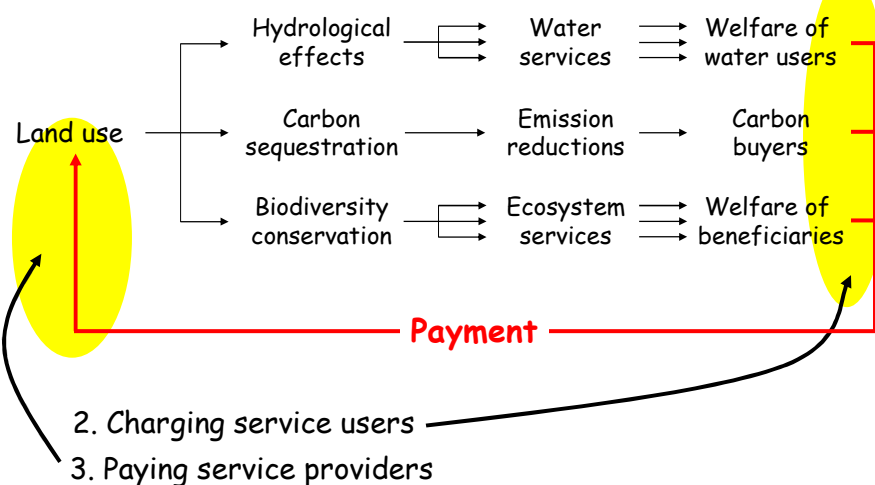
	Modesto	Santa Monica
Total Benefits (energy, CO ₂ , air, H ₂ O, property)	4,848,140	2,349,732
Tree Program Costs (plant, prune, remove, admin.)	2,214,504	1,111,948
Other Costs (repair, claims, legal)	408,880	432,052
Total Costs	2,623,384	1,544,000
Benefit : Cost Ratio	1.85	1.52

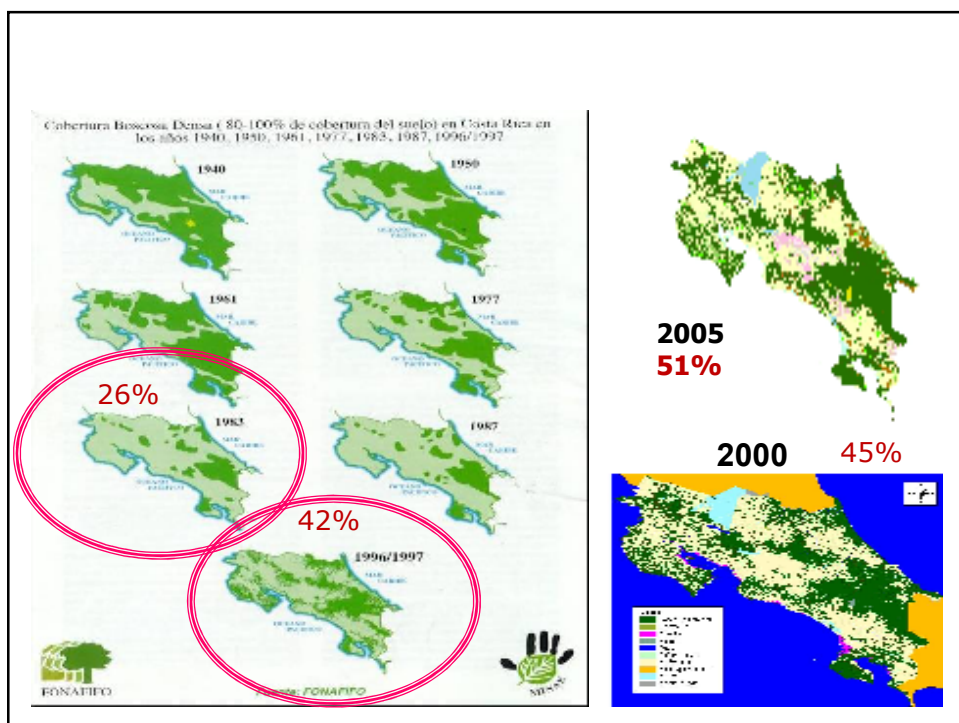
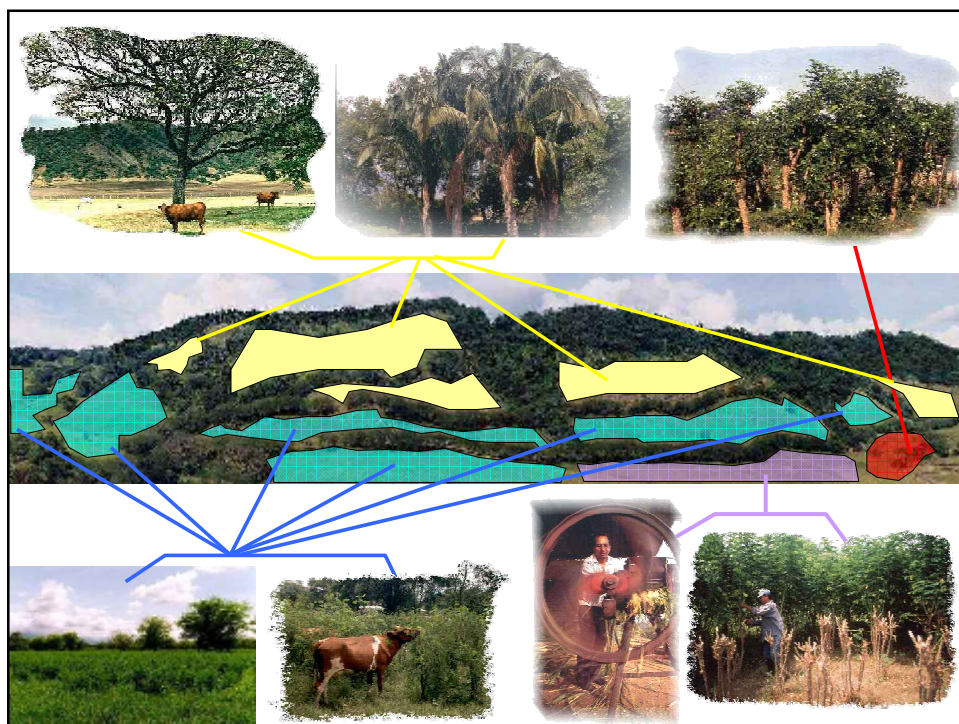


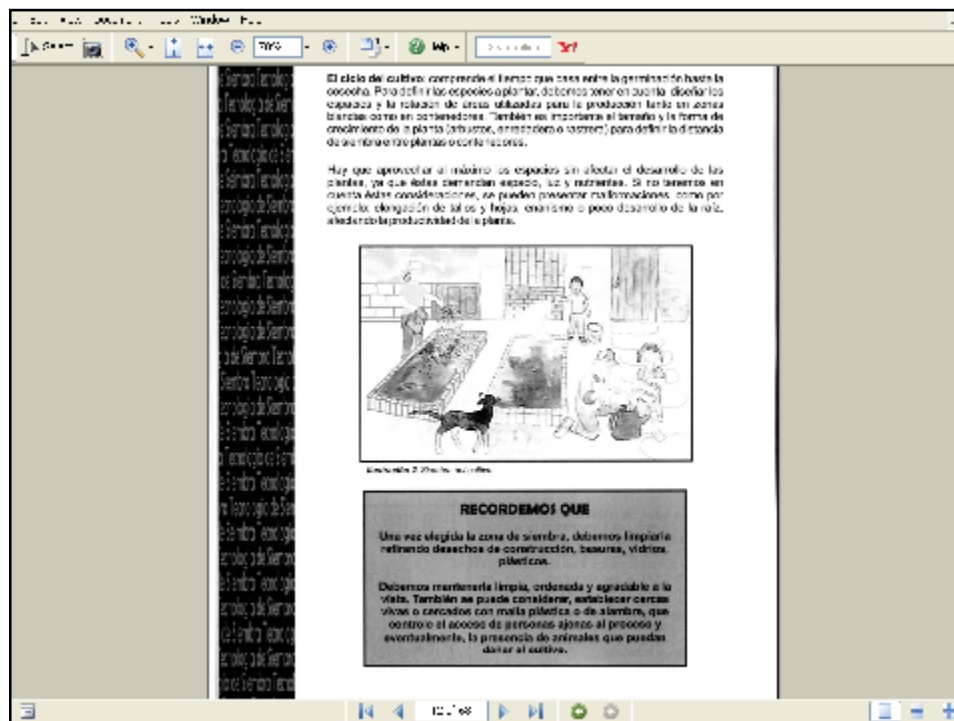
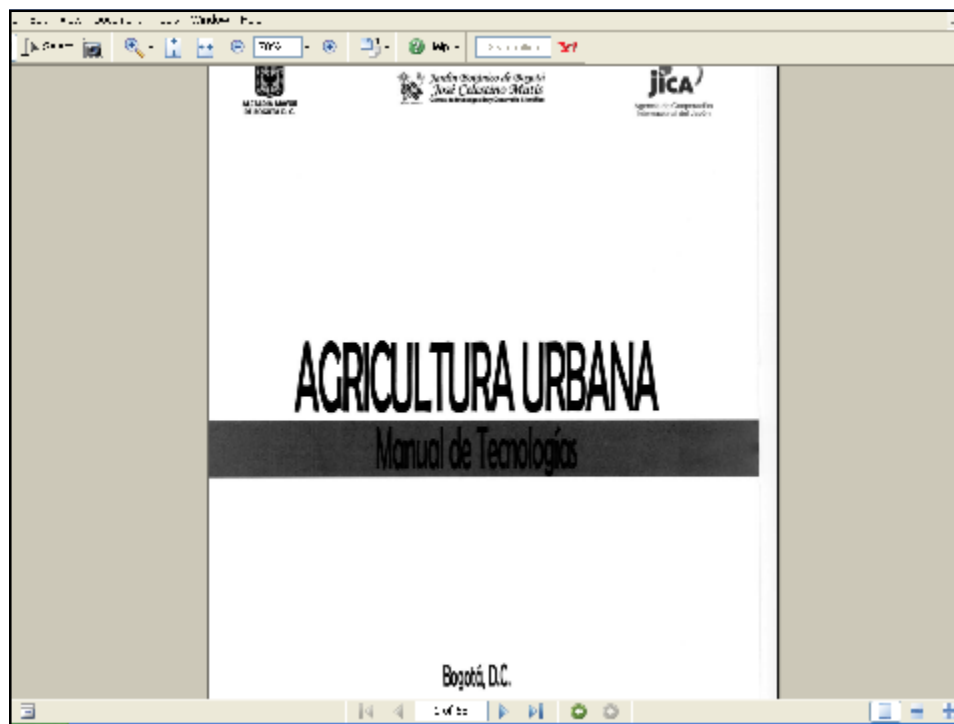




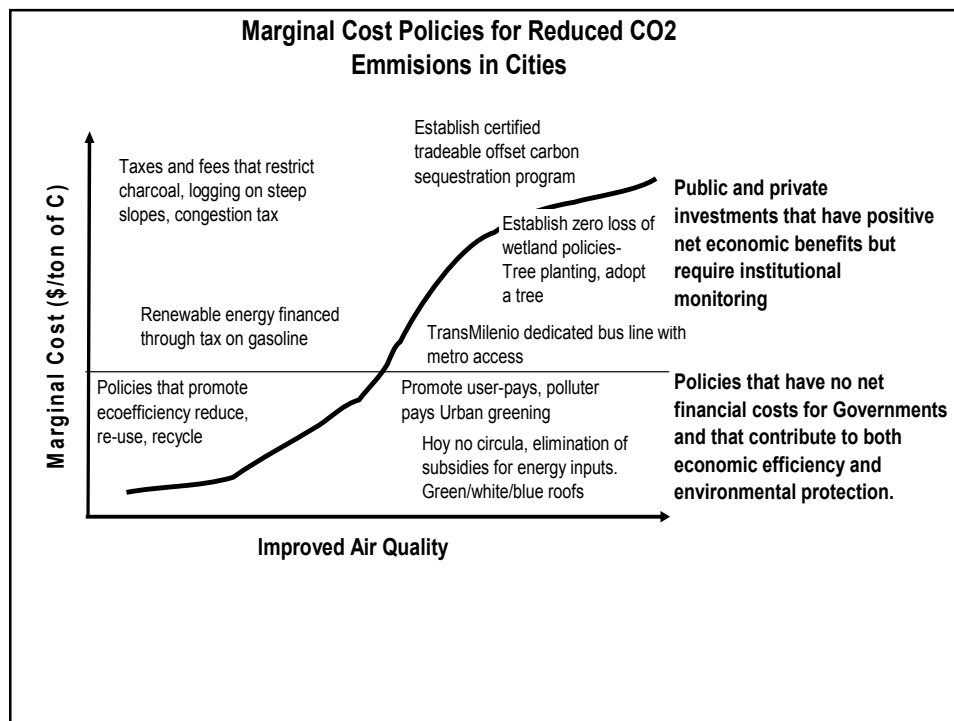
Success Stories: Quito Water Tax, Payments for Ecosystem Services Mexico and Costa Rica







Environmental Policy Instruments -- Urban Applications				
<-----Minimum Flexibility-----> <----- Moderate Flexibility -----> <----- Maximum Flexibility ----->				
<--- Maximum Government Involvement ---> <--- Increased Private Initiative --->				
<-Control-Oriented-> <-----Market-Oriented-----> <-Litigation-Oriented->				
Regulations and Sanctions	Charges, Taxes, and Fees	Market Creation	Consumer Demand Intervention	Liability Legislation
<u>Standards</u> *Fines for spills from port or land-based storage facilities Land use restrictions *Environmental guidelines for urban road alignments *Bans applied to toxic materials *Water use quotas	<u>Effluent and User Charges</u> *Taxes to encourage reuse or recycling Tipping fees on solid wastes *User charges for water	<u>Tradable Permits</u> *Deposit-refund systems for solid and hazardous wastes *Tradable permits for water abstraction rights, and water and air pollution emissions	<u>Performance</u> Consumer product labeling (eco-labels) relating to problem materials (for example, phosphates in detergents) *Manufacturers disclose solid, liquid, and toxic waste generation *Blacklist of polluters	<u>Liability legislation</u> *Damages compensation *Long-term performance bonds *“Zero net impact” requirements for road alignments, pipelines or utility rights of way, and water crossings



Goal: 100% renewable power for City government by 2010; expected in 2008.

In 2005, 11% of electricity was from new renewables

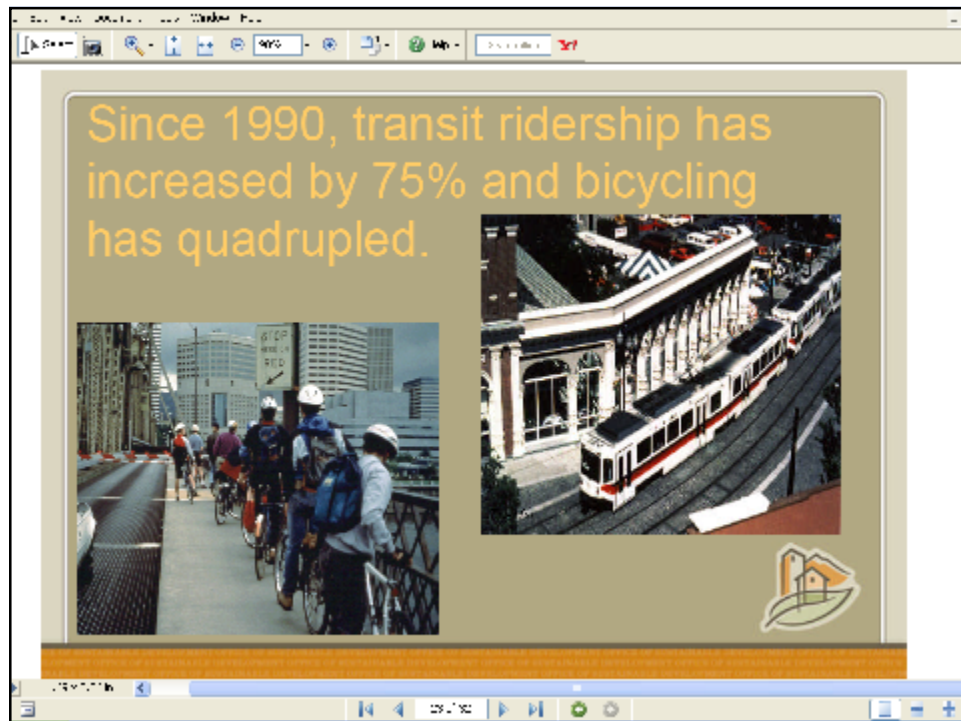
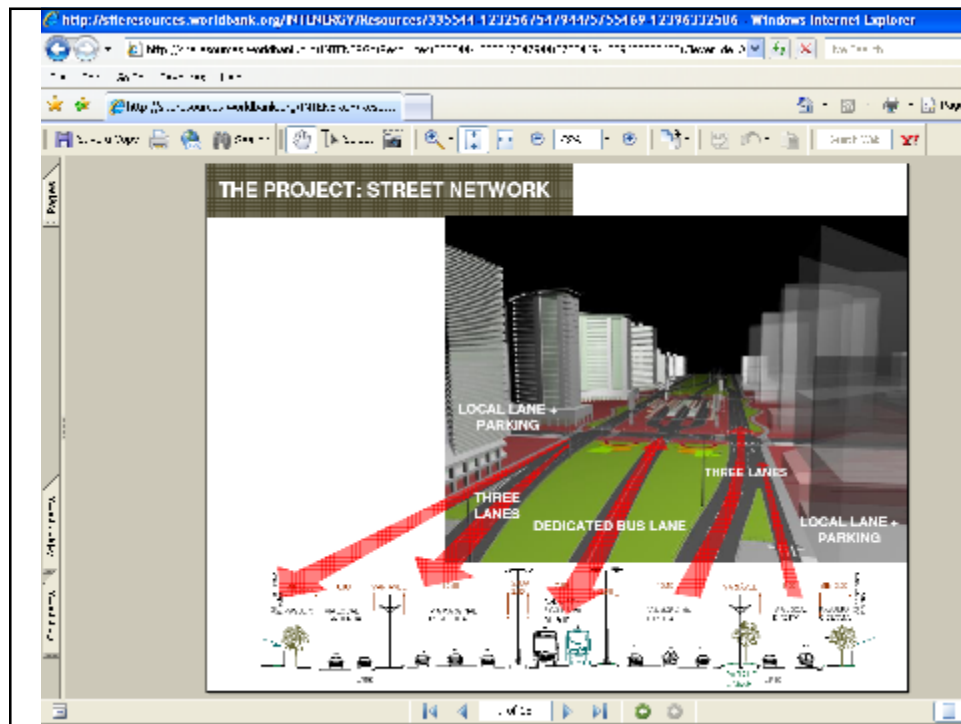
Transport

<http://office.microsoft.com/en-us/images/>

TRANSPORT								
Ciudad de Mexico	Guadalajara	Bogota	Medellin	Santiago	Curitiba	Quito	Guayaquil	Ciudad de Guatemala
* Metrobús, BRT two corridors 220.000 Pas/day * Collective transport of students to avoid their parents to drive them to school. * ECOBICI	Macrobus BRT 127.000 Pas/day	Transmilenio BRT: 1.6 million users a day, trip times reduced to 1/3	Metrodable: Integration of city slums with the public transport	* Transantiago BRT * Expansion of the Metro system (45km)	BRT: 6 service lines, 72 Km of exclusive lanes, 1.8 million users a day	Vehi de restriction within perimeter of Quito's historical center. Metrobús, BRT 560.000 Pas/day	Metrovia BRT 300.000 Pas/day	Transmetro BRT 150.000 Pas/day

<http://office.microsoft.com/en-us/images/>

Department of Sustainable Development



Potable water and Sanitation



<http://office.microsoft.com/en-us/images/>

POTABLE WATER AND SANITATION

Buenos Aires	Monterrey	Porto Alegre	Sao Paulo
Meters installation in order to reduce consumption 40% by 2012	Infrastructure renewal leaks reduction from 32% in 1998 to 21% in	Facilitates potable water access for informal settlements	Monitoring of leaks and illegal connections



Department of Sustainable Development

Waste Management



<http://office.microsoft.com/en-us/images/>


WASTE MANAGEMENT

Medellin	Puebla	Santiago	Curitiba	Belo Horizonte	Sao Paulo
* Introduction of ecological bags * Pedagogic fines for inappropriate waste disposal.	"Monedero ecológico" Cambio de Kg de desechos por créditos electrónicos que se pueden redimir por bienes.	Agreement with 4 beneficial institutions to collect and bring wastes to 39 specialized points	"Compra de basura" Cambiar basura (8 a 10 Kg) por mercados de comida en determinados puntos de recolección	Integración de recolectores en el sistema de recolección	Ecopoint: puntos de recolección de escombros y desechos de grandes dimensiones




Department of Sustainable Development

Green Investment Fund
5-year, \$2.5 million partnership among city bureaus and Energy Trust of Oregon



Shizen condominium project

- Solar + biodiesel-powered micro-turbine
- Rainwater for toilets/irrigation year-round
- Salvaged, moved, renovated and sold house previously on site



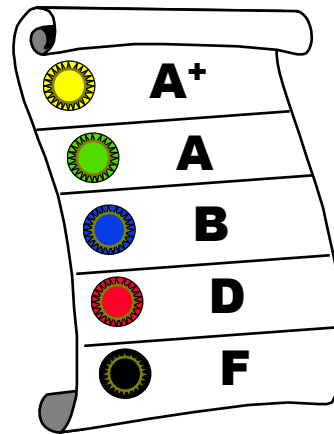

Carrot instead of a stick.

- In New York, Mayor Bloomberg a **“congestion tax” on cars** entering traffic-clogged districts during peak hours — has been working for more than four years in London (and more than 30 years in Singapore) to increase the numbers of people using public transportation.
- **Bogota, Curitiba, Quito, Sao Paolo, Guayaquil, Guatemala City, Mexico, Santiago, Lima** adopted an opposite approach, brandishing a carrot instead of a stick. Public transportation would attract more users if it was more attractive.
- **Transmilenio, Metrobus, Megabus, Macrobus or Metrovia** “trinary” system that embraces three parallel thoroughfares: a large central avenue dedicated to two-way rapid-bus traffic (flanked by slow lanes for cars making short local trips) and, a block over on each side, an avenue for fast one-way automobile traffic.

Different Approaches:

- **Michael R. Bloomberg proposed for New York a contentious idea — a “congestion tax” on cars**
- **Curitiba adopted an opposite approach**, a large central avenue dedicated to two-way rapid-bus traffic -- When the bus system was inaugurated, it transported **54,000** passengers daily. That number has ballooned to **2.3 million**, in large part because of innovations that permit passengers to board and exit rapidly. In 1992, Lerner and his team established the tubular boarding platforms with fare clerks and turnstiles, so that the mechanisms for paying and boarding are separated, as in a subway.

5 Color Scheme for Green Performance



PERFORMANCE LEVELS	PERFORMANCE CRITERIA
GOLD	Clean technology, waste minimization, pollution prevention, conservation, etc.
GREEN	Above standards & good maintenance, housekeeping, sludge management, etc.
BLUE	Efforts meet minimum standards
RED	Efforts don't meet standards
	No pollution control effort, Serious environmental damages

